

aaa gaa gag tct gga gct gtg gca gct gca gcc agt gtc cct gct cag	400
Lys Glu Glu Ser Gly Ala Val Ala Ala Ala Ser Val Pro Ala Gln	
90 95 100	
agt aca gcc aga aca gga cac ttt gtg gac cag cac agg caa gca ctc	448
Ser Thr Ala Arg Thr Gly His Phe Val Asp Gln His Arg Gln Ala Leu	
105 110 115 120	
att gcc agg gtc aca gaa gtg gac gga gtg ctg gat gct ttg cat ggc	496
Ile Ala Arg Val Thr Glu Val Asp Gly Val Leu Asp Ala Leu His Gly	
125 130 135	
agt gtg ctg act gaa gga cag tac cag gca gtt cgt gca gag acc acc	544
Ser Val Leu Thr Glu Gly Gln Tyr Gln Ala Val Arg Ala Glu Thr Thr	
140 145 150	
agc caa gac aag atg agg aag ctc ttc agc ttt gtt cca tcc tgg aac	592
Ser Gln Asp Lys Met Arg Lys Leu Phe Ser Phe Val Pro Ser Trp Asn	
155 160 165	
ctg acc tgc aag gac tcc ctc ctc cag gcc ttg aag gaa ata cat ccc	640
Leu Thr Cys Lys Asp Ser Leu Leu Gln Ala Leu Lys Glu Ile His Pro	
170 175 180	
tac ttg gtg atg gac ctg gag cag agc tgaggtatct tttccagcta	687
Tyr Leu Val Met Asp Leu Glu Gln Ser	
185 190	
cattatctag ctcctgactt tgtatacaca atttttgaaa aaacaatttg tatttgtgtt	747
taaaaaaaaaaa aaaaaaaaaa gggcggccgc	777
<210> 2	
<211> 193	
<212> PRT	
<213> Mus musculus	
<400> 2	
Met Gly Arg Ala Arg Asp Ala Ile Leu Asp Ala Leu Glu Asn Leu Ser	
1 5 10 15	
Gly Asp Glu Leu Lys Lys Phe Lys Met Lys Leu Leu Thr Val Gln Leu	
20 25 30	
Arg Glu Gly Tyr Gly Arg Ile Pro Arg Gly Ala Leu Leu Gln Met Asp	
35 40 45	
Ala Ile Asp Leu Thr Asp Lys Leu Val Ser Tyr Tyr Leu Glu Ser Tyr	
50 55 60	
Gly Leu Glu Leu Thr Met Thr Val Leu Arg Asp Met Gly Leu Gln Glu	
65 70 75 80	
Leu Ala Glu Gln Leu Gln Thr Thr Lys Glu Glu Ser Gly Ala Val Ala	
85 90 95	
Ala Ala Ala Ser Val Pro Ala Gln Ser Thr Ala Arg Thr Gly His Phe	
100 105 110	
Val Asp Gln His Arg Gln Ala Leu Ile Ala Arg Val Thr Glu Val Asp	
115 120 125	
Gly Val Leu Asp Ala Leu His Gly Ser Val Leu Thr Glu Gly Gln Tyr	
130 135 140	
Gln Ala Val Arg Ala Glu Thr Thr Ser Gln Asp Lys Met Arg Lys Leu	
145 150 155 160	

Phe Ser Phe Val Pro Ser Trp Asn Leu Thr Cys Lys Asp Ser Leu Leu
 165 170 175
 Gln Ala Leu Lys Glu Ile His Pro Tyr Leu Val Met Asp Leu Glu Gln
 180 185 190

Ser

<210> 3
 <211> 579
 <212> DNA
 <213> Mus musculus

<400> 3
 atggggcggg cacgagatgc catcctggac gctctgaaa acttgcagg ggatgaactc 60
 aaaaagtca agatgaagct gctgacagtg caactgcgag aaggctatgg ggcgcattccca 120
 cggcggggccc tgctgcagat ggacgcccata gatctcaactg acaaacttgt cagctactat 180
 ctggagtcgt atggcttgg a gtcacaatg actgtgccta gagacatggg cttacaggag 240
 ctggctgagc agctgcaaac gactaaagaa gagtctggag ctgtggcagc tgcagccagt 300
 gtcctgctc accaggcagt tcgtgcagag accaccagcc aagacaagat gcaagcactc 360
 attgccaggg tcacagaagt ggacggagtg ctggatgctt tgcattggcag tgtgctgact 420
 gaaggacagt accaggcagt tcgtgcagag accaccagcc aagacaagat gaggaagctc 480
 ttca gcttgc ttccatctg gaaacctgacc tgcaaggact ccctcctcca ggccttgaag 540
 gaaatacata cttacttggt gatggacctg gagcagagc 579

<210> 4
 <211> 740
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (54)...(638)

<400> 4
 cgcgtccggc tgca g cggg tgagcggcgg cagcggccgg ggatccttgg a gcc atg 56
 Met 1

ggg cgc gcg cgc gac gcc atc ctg gat gcg ctg gag aac ctg acc gcc 104
 Gly Arg Ala Arg Asp Ala Ile Leu Asp Ala Leu Glu Asn Leu Thr Ala
 5 10 15

gag gag ctc aag aag ttc aag ctg aag ctg ctg tcg gtg ccg ctg cgc 152
 Glu Glu Leu Lys Lys Phe Lys Leu Lys Leu Leu Ser Val Pro Leu Arg
 20 25 30

gag ggc tac ggg cgc atc ccg cgg ggc gcg ctg ctg tcc atg gac gcc 200
 Glu Gly Tyr Gly Arg Ile Pro Arg Gly Ala Leu Leu Ser Met Asp Ala
 35 40 45

ttg gac ctc acc gac aag ctg gtc agc ttc tac ctg gag acc tac ggc 248
 Leu Asp Leu Thr Asp Lys Leu Val Ser Phe Tyr Leu Glu Thr Tyr Gly
 50 55 60 65

gcc gag ctc acc gct aac gtg ctg cgc gac atg ggc ctg cag gag atg 296
 Ala Glu Leu Thr Ala Asn Val Leu Arg Asp Met Gly Leu Gln Glu Met
 70 75 80

gcc ggg cag ctg cag gcg gcc acg cac cag ggc tct gga gcc gcg cca Ala Gly Gln Leu Gln Ala Ala Thr His Gln Gly Ser Gly Ala Ala Pro	344
85 90 95	
gct ggg atc cag gcc cct cct cag tcg gca gcc aag cca ggc ctg cac Ala Gly Ile Gln Ala Pro Pro Gln Ser Ala Ala Lys Pro Gly Leu His	392
100 105 110	
ttt ata gac cag cac cgg gct gcg ctt atc gcg agg gtc aca aac gtt Phe Ile Asp Gln His Arg Ala Ala Leu Ile Ala Arg Val Thr Asn Val	440
115 120 125	
gag tgg ctg ctg gat gct ctg tac ggg aag gtc ctg acg gat gag cag Glu Trp Leu Leu Asp Ala Leu Tyr Gly Lys Val Leu Thr Asp Glu Gln	488
130 135 140 145	
tac cag gca gtg cgg gcc gag ccc acc aac cca agc aag atg cgg aag Tyr Gln Ala Val Arg Ala Glu Pro Thr Asn Pro Ser Lys Met Arg Lys	536
150 155 160	
ctc ttc agt ttc aca cca gcc tgg aac tgg acc tgc aag gac ttg ctc Leu Phe Ser Phe Thr Pro Ala Trp Asn Trp Thr Cys Lys Asp Leu Leu	584
165 170 175	
ctc cag gcc cta agg gag tcc cag tcc tac ctg gtg gag gac ctg gag Leu Gln Ala Leu Arg Glu Ser Gln Ser Tyr Leu Val Glu Asp Leu Glu	632
180 185 190	
cg ^g agc tgaggctcct tccca ^g caac actccgg ^t ca gccc ^t gg ^c a atcccaccaa Arg Ser	688
195	
atcatcctga atctgatctt ttatacaca atatacgaaa agccagcttg aa	740
<210> 5	
<211> 195	
<212> PRT	
<213> Homo sapiens	
<400> 5	
Met Gly Arg Ala Arg Asp Ala Ile Leu Asp Ala Leu Glu Asn Leu Thr	15
1 5 10	
Ala Glu Glu Leu Lys Lys Phe Lys Leu Lys Leu Leu Ser Val Pro Leu	30
20 25	
Arg Glu Gly Tyr Gly Arg Ile Pro Arg Gly Ala Leu Leu Ser Met Asp	45
35 40	
Ala Leu Asp Leu Thr Asp Lys Leu Val Ser Phe Tyr Leu Glu Thr Tyr	60
50 55	
Gly Ala Glu Leu Thr Ala Asn Val Leu Arg Asp Met Gly Leu Gln Glu	80
65 70 75	
Met Ala Gly Gln Leu Gln Ala Ala Thr His Gln Gly Ser Gly Ala Ala	95
85 90	
Pro Ala Gly Ile Gln Ala Pro Pro Gln Ser Ala Ala Lys Pro Gly Leu	110
100 105	
His Phe Ile Asp Gln His Arg Ala Ala Leu Ile Ala Arg Val Thr Asn	125
115 120	

Val Glu Trp Leu Leu Asp Ala Leu Tyr Gly Lys Val Leu Thr Asp Glu
 130 135 140
 Gln Tyr Gln Ala Val Arg Ala Glu Pro Thr Asn Pro Ser Lys Met Arg
 145 150 155 160
 Lys Leu Phe Ser Phe Thr Pro Ala Trp Asn Trp Thr Cys Lys Asp Leu
 165 170 175
 Leu Leu Gln Ala Leu Arg Glu Ser Gln Ser Tyr Leu Val Glu Asp Leu
 180 185 190
 Glu Arg Ser
 195

<210> 6

<211> 585

<212> DNA

<213> Homo sapiens

<400> 6

atggggcgcg	cgcgcgacgc	catcctggat	gctgtggaga	acctgaccgc	cgaggagctc	60
aagaagttca	agctgaagct	gctgtcggtg	ccgctgcgcg	agggctacgg	gcccacatcccg	120
cgggggcgcg	tgctgtccat	ggacgccttg	gacccatcccg	acaagctgg	cagcttctac	180
ctggagacct	acggcgccga	gctcaccgct	aacgtgctgc	gacacatggg	cctgcaggag	240
atggccgggc	agctgcaggg	ggccacgcac	caggctctg	gagccgcgc	agctgggatc	300
caggccccctc	ctcagtcggc	agccaaagcca	gcccact	ttatagacca	gcacccggct	360
gcgcattatcg	cgagggtcac	aaacgttgag	tggctgtgg	atgctctgt	cgaaagggtc	420
ctgacggatg	agcagtacca	ggcagtgcgg	gcccagccca	ccaacccaag	caagatgcgg	480
aagctttca	gttacacacc	agccctggaa	tggacactgca	aggacttgct	cctccaggcc	540
ctaagggagt	cccagtctta	cctgggtggag	gacctggagc	ggagc		585

<210> 7

<211> 84

<212> PRT

<213> Mus musculus

<400> 7

Gly His Phe Val Asp Gln His Arg Gln Ala Leu Ile Ala Arg Val Thr						
1 5 10 15						
Glu Val Asp Gly Val Leu Asp Ala Leu His Gly Ser Val Leu Thr Glu						
20 25 30						
Gly Gln Tyr Gln Ala Val Arg Ala Glu Thr Thr Ser Gln Asp Lys Met						
35 40 45						
Arg Lys Leu Phe Ser Phe Val Pro Ser Trp Asn Leu Thr Cys Lys Asp						
50 55 60						
Ser Leu Leu Gln Ala Leu Lys Glu Ile His Pro Tyr Leu Val Met Asp						
65 70 75 80						
Leu Glu Gln Ser						

<210> 8

<211> 85

<212> PRT

<213> Homo sapiens

<400> 8

Gly Leu His Phe Ile Asp Gln His Arg Ala Ala Leu Ile Ala Arg Val						
1 5 10 15						
Thr Asn Val Glu Trp Leu Leu Asp Ala Leu Tyr Gly Lys Val Leu Thr						
20 25 30						

Asp Glu Gln Tyr Gln Ala Val Arg Ala Glu Pro Thr Asn Pro Ser Lys
 35 40 45
 Met Arg Lys Leu Phe Ser Phe Thr Pro Ala Trp Asn Trp Thr Cys Lys
 50 55 60
 Asp Leu Leu Leu Gln Ala Leu Arg Glu Ser Gln Ser Tyr Leu Val Glu
 65 70 75 80
 Asp Leu Glu Arg Ser
 85

<210> 9
 <211> 94
 <212> PRT
 <213> Homo sapiens

<400> 9
 Met Glu Ala Arg Asp Lys Gln Val Leu Arg Ser Leu Arg Leu Glu Leu
 1 5 10 15
 Gly Ala Glu Val Leu Val Glu Gly Leu Val Leu Gln Tyr Leu Tyr Gln
 20 25 30
 Glu Gly Ile Leu Thr Glu Asn His Ile Gln Glu Ile Asn Ala Gln Thr
 35 40 45
 Thr Gly Leu Arg Lys Thr Met Leu Leu Leu Asp Ile Leu Pro Ser Arg
 50 55 60
 Gly Pro Lys Ala Phe Asp Thr Phe Leu Asp Ser Leu Gln Glu Phe Pro
 65 70 75 80
 Trp Val Arg Glu Lys Leu Lys Lys Ala Arg Glu Glu Ala Met
 85 90

<210> 10
 <211> 90
 <212> PRT
 <213> Homo sapiens

<400> 10
 Ile Ala Gln Gln Trp Ile Gln Ser Lys Arg Glu Asp Ile Val Asn Gln
 1 5 10 15
 Met Thr Glu Ala Cys Leu Asn Gln Ser Leu Asp Ala Leu Leu Ser Arg
 20 25 30
 Asp Leu Ile Met Lys Glu Asp Tyr Glu Leu Val Ser Thr Lys Pro Thr
 35 40 45
 Arg Thr Ser Lys Val Arg Gln Leu Leu Asp Thr Thr Asp Ile Gln Gly
 50 55 60
 Glu Glu Phe Ala Lys Val Ile Val Gln Lys Leu Lys Asp Asn Lys Gln
 65 70 75 80
 Met Gly Leu Gln Pro Tyr Pro Glu Ile Leu
 85 90

<210> 11
 <211> 90
 <212> PRT
 <213> Homo sapiens

<400> 11
 Glu Ser His Pro His Ile Gln Leu Leu Lys Ser Asn Arg Glu Leu Leu
 1 5 10 15
 Val Thr His Ile Arg Asn Thr Gln Cys Leu Val Asp Asn Leu Leu Lys
 20 25 30

Asn Asp Tyr Phe Ser Ala Glu Asp Ala Glu Ile Val Cys Ala Cys Pro
 35 40 45
 Thr Gln Pro Asp Lys Val Arg Lys Ile Leu Asp Leu Val Gln Ser Lys
 50 55 60
 Gly Glu Glu Val Ser Glu Phe Phe Leu Tyr Leu Leu Gln Gln Leu Ala
 65 70 75 80
 Asp Ala Tyr Val Asp Leu Arg Pro Trp Leu
 85 90

<210> 12

<211> 95

<212> PRT

<213> Artificial Sequence

<220>

<223> Consensus sequence

<221> VARIANT

<222> 13, 50

<223> Xaa = Any Amino Acid

<400> 12

Ala Glu Ser Gly Ser Glu Ile Ile Asp Gln His Arg Xaa Ala Leu Leu
 1 5 10 15
 Ala Arg Val Thr Glu Asp Pro Asp Ser Leu Leu Asp Ala Leu Leu Ser
 20 25 30
 Arg Asp Leu Ile Ser Glu Glu Asp Tyr Glu Ala Val Glu Ala Glu Thr
 35 40 45
 Thr Xaa Leu Ser Lys Val Arg Lys Leu Leu Ile Leu Val Gln Ser Lys
 50 55 60
 Gly Glu Glu Thr Cys Lys Phe Leu Lys Cys Leu Leu Gln Ala Leu Lys
 65 70 75 80
 Asp Ser Ala Ala Tyr Leu Gly Leu Asp Pro Glu Val Leu Glu Ser
 85 90 95

<210> 13

<211> 97

<212> PRT

<213> Homo sapiens

<400> 13

Met Ala Thr Glu Ser Thr Pro Ser Glu Ile Ile Glu Arg Glu Arg Lys
 1 5 10 15
 Lys Leu Leu Glu Ile Leu Gln His Asp Pro Asp Ser Ile Leu Asp Thr
 20 25 30
 Leu Thr Ser Arg Arg Leu Ile Ser Glu Glu Glu Tyr Glu Thr Leu Glu
 35 40 45
 Asn Val Thr Asp Leu Leu Lys Lys Ser Arg Lys Leu Leu Ile Leu Val
 50 55 60
 Gln Lys Lys Gly Glu Ala Thr Cys Gln His Phe Leu Lys Cys Leu Phe
 65 70 75 80
 Ser Thr Phe Pro Gln Leu Ala Ala Ile Cys Gly Leu Arg His Glu Val
 85 90 95
 Leu

<210> 14
 <211> 108
 <212> PRT
 <213> *Rattus norvegicus*

<400> 14
 Met Ala Ser Glu Gly Ala Ser Ser Glu Ile Ile Glu Lys Gln Arg Thr
 1 5 10 15
 Lys Leu Leu Ser Val Leu Gln Gln Asp Pro Asp Ser Ile Leu Asp Thr
 20 25 30
 Leu Thr Ser Arg Arg Leu Ile Ser Glu Glu Glu Tyr Glu Thr Leu Glu
 35 40 45
 Ala Ile Thr Asp Pro Leu Lys Lys Ser Arg Lys Leu Leu Ile Leu Ile
 50 55 60
 Gln Lys Lys Gly Glu Asp Ser Cys Cys Phe Leu Lys Cys Leu Ser
 65 70 75 80
 Asn Ala Phe Pro Gln Ser Ala Ser Thr Leu Gly Leu Lys Gln Glu Val
 85 90 95
 Pro Arg Gln Gly Thr Gly Glu Val Val Glu Val Ser
 100 105

<210> 15
 <211> 85
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Consensus sequence

<221> VARIANT
 <222> 2, 5, 18, 20, 21, 29, 34, 45-47, 56, 61, 67, 72, 74-75, 84
 <223> Xaa = Any Amino Acid

<400> 15
 Gly Xaa His Phe Xaa Asp Gln His Arg Ala Ala Leu Ile Ala Arg Val
 1 5 10 15
 Thr Xaa Val Xaa Xaa Val Leu Asp Ala Leu Tyr Gly Xaa Val Leu Thr
 20 25 30
 Glu Xaa Gln Tyr Gln Ala Val Arg Ala Glu Thr Thr Xaa Xaa Xaa Lys
 35 40 45
 Met Arg Lys Leu Phe Ser Phe Xaa Pro Ser Trp Asn Xaa Thr Cys Lys
 50 55 60
 Asp Xaa Leu Leu Gln Ala Leu Xaa Glu Xaa Xaa Pro Tyr Leu Val Glu
 65 70 75 80
 Asp Leu Glu Xaa Ser
 85

<210> 16
 <211> 25
 <212> DNA
 <213> *Homo sapiens*

<400> 16
 taggacacctg gtacccgcgc gcgcg

25

<210> 17
 <211> 25

<212> DNA

<213> Homo sapiens

<400> 17

cgccggcccc taggacctcg gtacc

25

<210> 18

<211> 777

<212> DNA

<213> Mus musculus

<400> 18

gccccggccc	ttttttttt	ttttttttta	aacacaata	caaattgttt	tttcaaaaat	60
tgtgtataca	aagttaggg	ctagataatg	tagctggaaa	agataccctca	gctctgctcc	120
aggccatca	ccaagttaggg	atgtatttc	ttcaaggcct	ggaggaggga	gtccttgcag	180
gtcagggtcc	aggatgaaac	aaagctgaag	agcttcctca	tcttgcttg	gctgggtggc	240
tctgcacgaa	ctgcctggta	ctgtcctca	gtcagcacac	tgccatgcaa	agcatccagc	300
actccgtcca	cttctgtgac	cctggcaatg	agtgttgc	tgtgctggc	cacaagggt	360
cctgttctgg	ctgtactctg	agcaggaca	ctggctgcag	ctgccacagc	tccagactct	420
tcttagtgc	tttgcagctg	ctcagccagc	tcctgttaagc	ccatgtctct	aagcacagtc	480
atgtgagct	ccaagccata	cgactccaga	tagtagctga	caagttgtc	agtgagatct	540
atggcgtcca	tctgcagcag	ggcccccgcgt	ggatgcgc	catagccttc	tcgcagttgc	600
actgtcagca	gttcatctt	gaactttttg	agttcatccc	ctgacaagg	ttcaagagcg	660
tccaggatgg	catctcg	ccgccccatg	gctctgggt	gggcagccgc	ggtcacctt	720
tactcttgct	gctgctcgcc	tgc	tcgc	ccgacgcgtg	ggtgcac	777

<210> 19

<211> 740

<212> DNA

<213> Homo sapiens

<400> 19

ttcaagctgg	ctttcgat	attgtgtata	aaaagatcag	attcaggatg	attttgggtgg	60
attgccagg	gctgaccgga	gtgttgc	gaaggagcct	cagctccgct	ccaggtcctc	120
caccaggtag	gactggact	cccttagggc	ctggaggagc	aagtccttgc	aggtccagtt	180
ccaggcttgt	gtgaaactga	agagttccg	catctgttt	gggttgggt	gctcgccccg	240
cactgcctgg	tactgtcat	ccgtcaggac	tttccctgtac	agagcatcca	gcagccactc	300
aactttgtg	accctcg	taagcgcagc	ccgggtctgg	tctataaaat	gcaggcctgg	360
cttggctg	gactgaggag	ggcctggat	cccagctggc	gcggctccag	agccctgg	420
cgtggccgc	tgcagctg	cgccatctc	ctgcaggccc	atgtcgcgca	gcacgttagc	480
ggtgagctcg	gcgcgttag	tctccaggta	gaagctgacc	agcttgc	tgaggtccaa	540
ggcgtccatg	gacagcagc	cgccccgcgg	gatgc	ccgcctcgc	gcagcggcac	600
cgacagcagc	ttcagcttga	acttcttgc	tc	gtcaggttct	ccagcgc	660
caggatggcg	tcgcgcgc	gc	cc	ccggccgtg	ccggccgtca	720
ccccgtca	gcccgc	gc	cc	cc	cc	740